

IN THE CLAIMS

Claims 1-18 (Cancelled):

19. (New) A method for the treatment of Parkinson's disease and the prevention and/or treatment of the concomitant symptoms thereof comprising:

administering to a subject in need thereof an effective dose of an adenosine A_1A_{2a} -receptor dual antagonist.

20. (New) The method of Claim 19, wherein said concomitant symptoms comprise anxiety.

21. (New) The method of Claim 19, wherein said concomitant symptoms comprise depression.

22. (New) The method of Claim 19, wherein said concomitant symptoms comprise memory impairment.

23. (New) The method of Claim 19, wherein said adenosine A_1A_{2a} -receptor dual antagonist has an adenosine A_{2a} -receptor antagonizing IC_{50} of not more than 100 nM.

24. (New) The method of Claim 19, wherein said adenosine A_1A_{2a} -receptor dual antagonist has an adenosine A_{2a} -receptor antagonizing IC_{50} of not more than 50 nM.

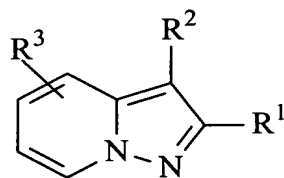
25. (New) The method of Claim 19, wherein the affinity for the adenosine A_1 -receptor of the adenosine A_1A_{2a} -receptor dual antagonist is 0.25 to 40 times greater than that for the adenosine A_{2a} -receptor.

26. (New) The method of Claim 19, wherein the affinity for the adenosine A₁-receptor of the adenosine A₁A_{2a}-receptor dual antagonist is 8 to 40 times greater than that for the adenosine A_{2a}-receptor.

27. (New) The method of Claim 19, wherein said adenosine A₁A_{2a}-receptor dual antagonist is selected from the group consisting of adenine, a barbiturate, a benzimidazole, a benzo[1,2-c:5,4-c']dipyrzole, a benzo[b]furan, a benzo[g]pteridine-2,4-dione, a β-carboline, a dibenz[b,f]azepine, a flavone, an imidazo[1,2-a]pyrazine, an imidazo[4,5-b]pyridine, an imidazo[4,5-c]quinoline, an imidazo[4,5-e][1,4]diazepine-5,8-dione, an imidazo[4,5-f]quinazoline-7,9-dione, an imidazo[4,5-g]quinazoline-6,8-dione, an imidazo[1,2-a]quinoxaline, an imidazoline, an imidazotriazolopyrimidine, a pteridine-2,4-dione, a pyrazole, a pyrazolo[1,5-a]pyradine, a pyrazolo[1,5-a]pyridine, a pyrazolo[3,4-b]pyridine, pyrazolo[3,4-d]pyrimidine, a pyrazolo[4,3-d]pyrimidine, a pyrazolo[4,3-c]quinoline, a pyrimidine, a pyrimido[4,5-b](tetrahydro)indole, a pyrrolo[2,3-d]pyrimidine, a quinazoline, a quinoline, a thiazolo[3,2-a]pyrimidine, a thiazolo[2,3-b]quinazoline, a thiazolo[4,5-d]pyrimidine-5,7-dione, a thiazolo[5,4-d]pyrimidine-5,7-dione, a thiophene, a triazolo[3,2-a][2,7]naphthyridine, a triazolopurine, a [1,2,4]triazolo[4,3-b]pyridazine, a triazolo[1,5-a]pyrimidine, a triazolo[1,5-c]pyrimidine, a [1,2,4]triazolo[1,5-c]quinazoline, a [1,2,4]triazolo[4,3-a]quinoxaline, triazolo[1,5-a]triazine, a xanthine, a mesoionic xanthine.

28. (New) The method of Claim 19, wherein the adenosine A₁A_{2a}-receptor dual antagonist is a pyrazolopyridine compound, or a salt thereof, of the formula:

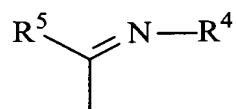
Appl. No.: New Application
Preliminary Amendment



wherein R^1 is a lower alkyl, a substituted aryl, an unsubstituted aryl, or a heterocyclic group;

wherein R^2 is:

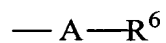
a group of the formula:



wherein R^4 is a protected amino or a hydroxy and R^5 is hydrogen or a lower alkyl;

cyano;

a group of the formula:



wherein R^6 is an acyl and A is a substituted lower aliphatic hydrocarbon group or an unsubstituted lower aliphatic hydrocarbon group;

Appl. No.: New Application
Preliminary Amendment

an amidated carboxy;

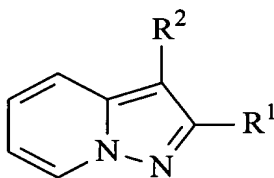
a substituted unsaturated heterocyclic group or an unsubstituted heterocyclic group;

amino; or

a protected amino; and

wherein R³ is hydrogen, a lower alkyl, a lower alkoxy, or a halogen.

29. (New) The method of Claim 19, wherein the adenosine A₁A_{2a}-receptor dual antagonist is a pyrazolopyridine compound of the formula:



wherein R¹ is an unsubstituted aryl or a halogen substituted aryl and

R² is a dihydropyridazinyl group having a lower alkyl optionally substituted by an unsaturated 3~8-membered monocyclic heterocyclic group containing 1 or 2 sulfur atom(s) and 1~3 nitrogen atoms or acyl(lower)alkyl and oxo; dihydropyridazinyl group having cyclo(lower)alkyl substituted by acyl(lower)alkyl or acyl(lower)alkylidene and oxo; or dihydropyridazinyl having cyclo(lower)alkenyl substituted by acyl(lower)alkyl or acyl(lower)alkylidene and oxo.

30. (New) The method of Claim 29, wherein

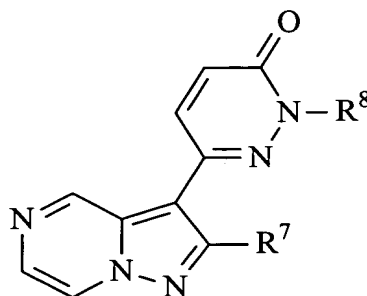
R¹ is an unsubstituted phenyl or a halogen substituted phenyl, and

R² is a 3-oxo-2,3-dihydropyridazinyl group having a thiazolyl(lower)alkyl group or a 3-oxo-2,3-dihydropyridazinyl group having a lower alkyl.

Appl. No.: New Application
Preliminary Amendment

31. (New) The method of Claim 19, wherein the adenosine A_1A_{2a} -receptor dual antagonist is 3-[2-(thiazol-2-ylmethyl)-3-oxo-2,3-dihydro-pyridazin-6-yl]-2-phenylpyrazolo[1,5-a]pyridine.

32. (New) The method of Claim 19, wherein the adenosine A_1A_{2a} -receptor dual antagonist is a pyrazolopyrazine compound, or a salt thereof, of the formula:



wherein R^7 is a substituted aryl or an unsubstituted aryl; and

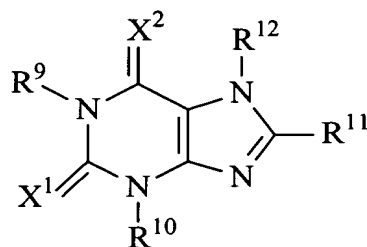
R^8 is hydrogen, a lower alkyl, a cyclo(lower)alkyl, a lower alkyl substituted by a cyclo(lower)alkyl, an ar(lower)alkyl, a heterocyclic group, or a lower alkyl substituted by a heterocyclic group.

33. (New) The method of Claim 32, wherein

R^7 is an unsubstituted phenyl or a halogen substituted phenyl, and

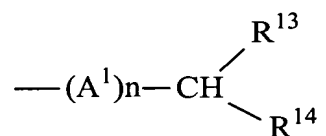
R^8 is a lower alkyl or a heterocyclic group.

34. (New) The method of Claim 19, wherein the adenosine A_1A_{2a} -receptor dual antagonist is a compound, or a salt thereof, of the formula:



wherein R^9 , R^{10} and R^{12} each is a hydrogen, a substituted lower aliphatic hydrocarbon group, an unsubstituted lower aliphatic hydrocarbon group, a substituted higher alkyl, an unsubstituted higher alkyl, a substituted ar(lower)alkyl, or an unsubstituted ar(lower)alkyl;

R^{11} is hydrogen, a substituted alicyclic group, an unsubstituted alicyclic group, a substituted aryl, an unsubstituted aryl, a substituted heterocyclic group, an unsubstituted heterocyclic group, a substituted alicyclic(lower)alkyl, an unsubstituted alicyclic(lower)alkyl, a substituted ar(lower)alkyl, an unsubstituted ar(lower)alkyl, a substituted heterocyclic(lower)alkyl, an unsubstituted heterocyclic(lower)alkyl, or a group of the formula:



wherein R^{13} and R^{14} each is an unsubstituted alicyclic group, a substituted alicyclic group, an unsubstituted aryl, or a substituted aryl;

A^1 is a lower alkylene; and

n is 0 or 1; and

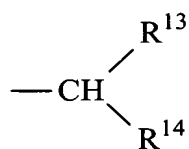
Appl. No.: New Application
Preliminary Amendment

X¹ and X² each is an oxygen atom or a sulfur atom
and salts thereof.

35. (New) The method of Claim 34, wherein

R⁹ and R¹⁰ are each lower alkyl,

R¹¹ is an unsubstituted cyclo(C₃-C₈)alkyl or an oxo substituted cyclo (C₃-C₈) alkyl, a (C₇-C₁₂) tricycloalkyl, or a group of the formula:



wherein R¹³ and R¹⁴ are each a cyclo (C₃-C₈) alkyl;

R¹² is hydrogen; and

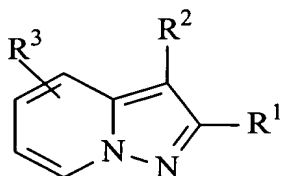
X¹ and X² are each an oxygen atom.

36. (New) A method for the treatment of Parkinson's disease and the concomitant symptoms thereof, comprising administering to a subject in need thereof and effective amount of one or more adenosine A₁-receptor dual antagonists and one or more adenosine A_{2a}-receptor antagonists.

37. (New) A pharmaceutical composition comprising an adenosine A₁A_{2a}-receptor dual antagonist in a form and amount sufficient to prevent and/or treat Parkinson's Disease or the concomitant symptoms of Parkinson's Disease.

Appl. No.: New Application
Preliminary Amendment

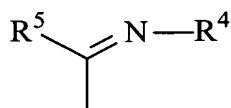
38. (New) The pharmaceutical composition claimed in Claim 37, wherein the adenosine A₁A_{2a}-receptor dual antagonist is a pyrazolopyridine compound, or a salt thereof, of the formula:



wherein R¹ is a lower alkyl, a substituted aryl an unsubstituted aryl, or a heterocyclic group;

wherein R² is:

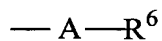
a group of the formula:



wherein R⁴ is a protected amino or a hydroxy and R⁵ is hydrogen or a lower alkyl;

a cyano,

a group of the formula:



wherein R⁶ is an acyl and A is a substituted lower aliphatic hydrocarbon group

Appl. No.: New Application
Preliminary Amendment

or an unsubstituted lower aliphatic hydrocarbon group;

an amidated carboxy,

a substituted unsaturated heterocyclic group or an unsubstituted heterocyclic group,

an amino, or

a protected amino; and

wherein R^3 is hydrogen, a lower alkyl, a lower alkoxy, or a halogen.